

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Previously Presented) A charge-air cooler for motor vehicles comprising:
a heat exchanger unit that includes tubes having tube ends and fins arranged between the tubes, and
at least one laterally arranged header box configured to introduce or discharge a medium, wherein the at least one header box has a bottom with openings for receiving the tube ends, a cover and an inlet or outlet connecting pipe,
wherein the header box is at least partially produced by internal high-pressure forming (IHF) of a metallic semifinished product.
2. (Previously Presented) The charge-air cooler as claimed in claim 1, wherein only the cover is produced by IHF and is welded to the bottom.
3. (Previously Presented) The charge-air cooler as claimed in claim 2, wherein the semifinished product is a rolled aluminum sheet.
4. (Previously Presented) The charge-air cooler as claimed in claim 1, wherein only the cover and the bottom are produced as a single piece from a semifinished product by IHF and are connected to the connecting pipe with a cohesive material joint, in particular are welded or soldered thereto.
5. (Previously Presented) The charge-air cooler as claimed in claim 1, the bottom, the cover and the connecting pipe are produced as a single piece by IHF.
6. (Previously Presented) The charge-air cooler as claimed in claim 4, wherein the semifinished product is an extruded aluminum tube.
7. (Previously Presented) The charge-air cooler as claimed in claim 5, wherein the connecting pipe is prebent before the IHF process.
8. (Previously Presented) The charge-air cooler as claimed in claim 1, wherein a part of the cover of the header box has a longitudinal bead produced by pressing from the outside and/or IHF from the inside.

9. (Previously Presented) A heat exchanger a charge-air cooler for motor vehicles, comprising:
a heat exchanger unit, that includes tubes having tube ends and fins arranged between the tubes, and

at least one laterally arranged header box configured to introduce or discharge a medium, wherein the at least one header box has a bottom with openings for receiving the tube ends, a cover and an inlet or outlet connecting pipe,

wherein the header box is at least partially produced by internal high-pressure forming (IHF) of a metallic semifinished product,

wherein a part of the cover of the header box has a longitudinal bead produced by pressing from the outside and/or IHF from the inside,

wherein the longitudinal bead is of conical design and has a cross section which increases in a direction pointing away from the connecting pipe while a cross-sectional area of the header box decreases.

10. (Previously Presented) The charge-air cooler as claimed in claim 1, wherein, after the IHF process, the header box has at least one open end surface which is closed by a cover.

11. (Previously Presented) The charge-air cooler as claimed in claim 4, wherein the openings in the bottom are produced by punching.

12. (Previously Presented) The charge-air cooler as claimed in claim 4, wherein the openings in the bottom are produced by prepunching before the IHF and/or by drawing through.

13. (Previously Presented) The charge-air cooler as claimed in claim 1, wherein the header box has a wall thickness which, at least in some regions, is greater than 2 mm.

14. (Previously Presented) The charge-air cooler as claimed in claim 1, wherein the header box has a wall thickness which, at least in some regions, is smaller than 5 mm.

15. (Previously Presented) The charge-air cooler as claimed in claim 1, wherein the bottom has a curvature which, at least in some regions, has a radius of curvature greater than 100 mm.

16. (Previously Presented) The charge-air cooler as claimed in claim 1, wherein the bottom has a curvature which, at least in some regions, has a radius of curvature smaller than 400 mm.

17. (Previously Presented) The charge-air cooler as claimed in claim 1, wherein the bottom in the transition region to the cover has a curvature which, at least in some regions, has a radius of curvature greater than 5 mm.
18. (Previously Presented) The charge-air cooler as claimed in claim 1, wherein the bottom in the transition region to the cover has a curvature which, at least in some regions, has a radius of curvature smaller than 20 mm.
19. (Previously Presented) The charge-air cooler as claimed in claim 1, wherein the header box, at least in some regions has a step- and/or kink-free cross section.
20. (Previously Presented) The charge-air cooler as claimed in claim 1, wherein a connecting pipe is designed as an end-side extension of the header box and is curved.
21. (Previously Presented) The charge-air cooler as claimed in claim 1, wherein the connecting pipe is arranged laterally on the header box.
22. (Previously Presented) The charge-air cooler as claimed in claim 4, wherein the cohesive material joint is a welded or soldered joint.
23. (Previously Presented) The charge-air cooler as claimed in claim 11, wherein the openings in the bottom are produced by punching counter to a hydraulic internal high pressure.
24. (Previously Presented) The charge-air cooler as claimed in claim 13, wherein the header box wall thickness is greater than 3 mm.
25. (Previously Presented) The charge-air cooler as claimed in claim 14, wherein the header box wall thickness is smaller than 4 mm.
26. (Previously Presented) The charge-air cooler as claimed in claim 15, wherein the bottom curvature, at least in some regions, has a radius of curvature greater than 200 mm.
27. (Previously Presented) The charge-air cooler as claimed in claim 16, wherein the bottom curvature, at least in some regions, has a radius of curvature smaller than 300 mm.
28. (Previously Presented) The charge-air cooler as claimed in claim 17, wherein the bottom curvature in the transition region to the cover, at least in some regions, has a radius of curvature greater than 10 mm.

29. (Previously Presented) The charge-air cooler as claimed in claim 18, wherein the bottom curvature in the transition region to the cover, at least in some regions, has a radius of curvature smaller than 15 mm.

30. (New) The charge-air cooler as claimed in claim 1, wherein part of the at least one header box includes a longitudinal bead of conical or flattened design that extends along at least a long axis of the at least one header box.

31. (New) The charge-air cooler as claimed in claim 30, wherein the longitudinal bead forms a depression in a surface of the at least one header box.

32. (New) The charge-air cooler as claimed in claim 30, wherein a cross section of the longitudinal bead increases in depth and width as a distance from an inlet or outlet connecting pipe of the at least one header box increases.

33. (New) The charge-air cooler as claimed in claim 32, wherein a cross section of the at least one header box decreases as the distance from the inlet or outlet connecting pipe increases.

34. (New) The heat exchanger as claimed in claim 9, wherein the longitudinal bead extends along at least a long axis of the at least one header box.

35. (New) The heat exchanger as claimed in claim 9, wherein the longitudinal bead forms a depression in a surface of the at least one header box.